An Inventory of Fishes Aged, from the Pacific Coast Commercial and Research Samples, by the Pacific Biological Station Fish Aging Unit During 1982 and 1983

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by

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ABSTRACT

Chilton, Doris E., Shayne E. MacLellan, Margaret Burke, Dawn Barnes and Linda Zado. 1984. An inventory of fishes aged, from the Pacific coast commercial and research samples, by the Pacific Biological Station fish aging unit during 1982 and 1983. Can. Data Rep. Fish. Aquat. Sci. 470: 45 p.

An inventory of commercial and research samples was processed and aged by the fish aging unit for 1982 and 1983. Samples are arranged by species, area, locality caught and date.

RÉSUMÉ

Chilton, Doris E., Shayne E. MacLellan, Margaret Burke, Dawn Barnes and Linda Zado. 1984. An inventory of fishes aged, from the Pacific Coast commercial and research samples, by the Pacific Biological Station fish aging unit during 1982 and 1983. Can. Data Rep. Fish. Aquat. Sci. 470: 45 p.

La section chargée de la détermination de l'âge des poissons a procédé à un inventaire des échantillons commerciaux et des échantillons de recherche pour 1982 et 1983 et elle a déterminé leur âge. Les échantillons sont présentés par espèce, région, endroit de capture et date.

INTRODUCTION

A function of the fish aging unit is to obtain accurate ages of the groundfish and herring biological samples, taken from the commercial and research vessel catches on the Pacific coast. These ages contribute to the knowledge and understanding of our fish stocks and biomass estimates.

An additional function of the aging unit is to coordinate aging procedures among Canadian and international agencies. Recently, the aging unit participated in two aging workshops under the sponsorship of the Technical Sub Committee of the Canada-United States Groundfish Committee to prepare a detailed manual for aging rockfish. During 1982 and 1983 the unit received requests from other agencies to age salmon, sablefish, Pacific ocean perch, sturgeon, char, cutthroat trout, lake cisco, Korean mackerel, white sucker, staghorn sculpin, Beaufort sea herring, hake from Chile and tilefish from Georgia.

The unit has expanded to include a limited amount of salmon aging. During 1982 and 1983 scales, otolith and fin rays (pectoral and dorsal) were collected from returning adult salmon at the various hatcheries throughout B.C. Many of these fish are known-age. A study is presently underway to compare the ages obtained from the three aging structures of chinook salmon. Approximately 3000 sockeye otoliths were aged in conjunction with the Vancouver scale lab as a learning exercise.

Considerable time was spent on the completion of the validation studies for sablefish during 1983. Over two hundred sablefish OTC marked otoliths, surfaces and cross sections, were examined and measured under ultra violet light prior to being aged and photographed for publication.

Inventories of biological samples taken from the British Columbia commercial groundfish fishery during 1982 and 1983 will be published separately (N. L. Venables et al. 1982, 1983 in prep.).

Types of groundfish samples are indicated as follows:

R = research
P = port sample of the commercial catch
Ob = observed aboard domestic fishing vessel
F ob = observed aboard foreign fishing vessel

Gear and source coding for herring tables are as follows:

Gear:		Source:	
19	= Gillnet	0	= roe fishery
29	= Seine	2	= research
59	= Trawl	5	= pre-fishery
1	= Other	6	= food fishery

The statistical maps showing Minor Areas used by the salmon and herring fishery are presently under revision.

ACKNOWLEDGEMENTS

We wish to thank the port and research samplers for their efficient way of collecting the samples. Thanks go to Karen Charles and Vicki Walker for assisting in aging the herring samples and to Lorena Rosenfeld for setting up the computor program for the herring data. We also wish to thank the salmon hatchery managers for their cooperation in obtaining the aging structures from the returning adults.

REFERENCES

Venables, N. L., F. R. Crabbe, J. B. Lucas and B. L. Hamer. 1984. An inventory of biological samples taken in British Columbia groundfish fishery during 1982. Can. Data Rep. Fish. Aquat. Sci. 455: 16 p.

Venables, N. L., F. R. Crabbe, J. B. Lucas and B. L. Hamer. In prep. An inventory of biological samples taken in the British Columbia groundfish fishery during 1983. Can. Data Rep. Fish. Aquat. Sci.

Table 1A. Number of groundfish samples aged during 1982 by species and International Area.

Species/Area	3C	3D	4A	4B	5A	5B	5C	5D	5E	10	Total
Flatfish											
English sole	-	-	-	-	-	-	1	5	-	-	6
Rock sole	-	-	-	-	-	-	22	3	-	-	25
Rockfish											
Pacific ocean perch	-	1	-	-	-	2	-	-	1	-	4
Other roundfish											
Lingcod	-	-	-	-	1	-	-	1	-	-	2
Pacific cod	5	-	-	-	-	-	-	-	-	-	5
Pacific hake	5	-	14	-	-	-	-	-	4	-	23
Sablefish	1	1	-	1	2	-	1	2	6	-	14
Walleye pollock	-	-	-	5	-	-	-	-	-	-	5
Total	11	2	14	6	3	2	24	11	11	-	84

Table 1B Number of Pacific herring samples aged during 1982 by Minor Area.

Minor Area	No. of samples
2W	26
01	9
2E	54
3	8
5	11
6	16
7	47
8	3
12	6
13	31
14	27
15	10
16	2
17	97
18	7
19	4
23	35
24	32
25	23
26	1
27	15
Total	464

Table 2. Number of, and percent of, total ages resolved, by species, during 1982.

Species	Resolved ages	Percent of groundfish	Percent of total
Flatfish			
English sole	1,259	7.4	2.5
Rock sole	5,360	31.6	10.6
Rockfish			
Pacific ocean perch	600	3.5	1.2
Other roundfish			
Lingcod	361	2.1	0.7
Pacific cod	116	0.7	0.2
Pacific hake	5,697	33.6	11.3
Sablefish	3,057	18.0	6.1
Walleye pollock	500	2.9	1.0
Groundfish sub-total	16,950*		34
Pacific herring	33,491**		66
Total	50,441		

*Resolved groundfish ages require 2-3 readings per structure.

**Herring otoliths require 2-3 readings per structure.

Herring scales (usually 1 per fish) are aged by individual readers. However, those with a difficult pattern from each area are aged and discussed by 2 readers.

Table 3. English sole (Parophrys vetulus) otoliths aged in 1982.

Major Area	Locality	Sample date	Total fish	Type of sample	Serial number
5C	Hecate St.	Aug. 1981	200	R	ES 893-1092
5D	Hecate St.	Aug. 1981	300	R	ES 1093-1392
		April 1982	159	R	ES 1393-1551
		April 1982	130	R	ES 1552-1681
		April 1982	268	R	ES 1682-1949
		April 1982	202	R	ES 1950-2151
Total			1259		

Table 4. Rock sole (Lepidopsetta bilineata) otoliths aged in 1982.

Major Area	Locality	Sample date	Total fish	Type of sample	Serial number
5C	Ole spot	April 1970	278	P	Z 4093-4115
		April 1970	240	P	Z 4176-4201
		May 1970	233	P	Z 4370-4395
	Reef Is.	May 1971	221	P	Z 6141-6169
		Sept 1971	275	P	Z 6852-6880
	Cumshewa	May 1972	228	P	Z 7219-7245
	Horseshoe	May 1973	271	P	Y 1669-1696
	Ole spot	May 1973	288	P	Z 8364-8394
		April-May 1974	248	P	Z 9562-9589
	Horseshoe	June 1975	243	P	A 841-870
	Cumshewa	April 1976	282	P	A 1239-1265
	Horseshoe	Aug. 1976	197	P	Y 2043-2071
	Cumshewa	May 1977	399	P	A 2474-2505
	Horseshoe	May 1977	388	P	A 2616-2645
		Aug. 1979	264	P	Y 10528-10561
		April 1982	57	R	RS 1668-1724
		April 1982	68	R	RS 1725-1792
		April 1982	108	R	RS 2026-2133
		April 1982	110	R	RS 2134-2243
		April 1982	115	R	RS 2244-2358
		April 1982	68	R	RS 2359-2426
		April 1982	96	R	RS 2427-2522
5D	Shell Grounds	Sept. 1972	229	P	Z 7540-7564
		May 1975	213	P	A 0696-0721
		Sept. 1978	241	P	Y 5622-5648
Total			5360		

Table 5. Pacific ocean perch (Sebastes alutus) otoliths aged in 1982.

Major Area	Locality	Sample date	Total fish	Type of sample	Serial number
3D	Estevan	March 1981	200	R	BMLRF 10401-10600
5B	Mitchell Gulley	April 1981	100	R	PRRF 04166-04265
	Cape St. James	May 1981	100	R	PRRF 04266-04365
5E	Rennell Sound	May 1981	200	R	PRRF 4366-4565
Total			600		

Table 6. Lingcod (Ophiodon elongatus) fin rays aged in 1982.

Major Area	Locality	Sample date	Total fish	Type of sample	Serial number
5A	Cape Scott	May 1981	323	P	7903-8225
5D	Archibald	Jun.-Aug.1981	38	P	-
Total			361		

Table 7. Pacific cod (Gadus macrocephalus) fin rays aged in 1982.

Major Area	Locality	Sample date	Total fish	Type of sample	Serial number
3C	Firing Range	Feb. 1982	72	Ob	6, 1-72
	Cabbage patch	Feb. 1982	18	Ob	3, 1-18
	Firing Range	Feb. 1982	6	Ob	5, 1-6
		Feb. 1982	6	Ob	9, 1-2
		Feb. 1982	14	Ob	10, 1-4
					10, 5-8
					17, 1-10
Total			116		

Table 8. Pacific hake (Merluccius productus) otoliths aged in 1982.

Area	Locality	Sample date	Total fish	Type of sample	Serial number
3C	Finger Bank	Aug. 1980	100	P	-
	Offshore	Sept. 1980	151	FOb	C7619-7769
		Sept. 1980	149	FOb	C7770-7918
	Finger Bank	Aug. 1981	300	FOb	C6467-6766
		July 1982	300	FOb	C10065-10366
		July 1982	200	FOb	C10367-10567
		Aug. 1982	300	FOb	C12201-12500
	Offshore	Aug. 1982	432	FOb	C13201-13632
		Aug. 1982	300	FOb	C12201-12500
4B	St. of Georgia	March 1976	448	R	12471-12918
		June 1976	300	R	B543-842
		June 1976	359	R	B1058-1416
		Jan. 1981	58	R	-
	Halibut Bank	April 1981	90	R	C4088-4177
	Cape Lazo	April 1981	179	R	C4866-5044
	Hornby	April 1981	276	R	C5045-5320
	Still Water	Jan. 1982	300	P	C9110-9409
	Halibut Bank	April 1982	339	R	C9410-9748
		April 1982	216	R	C9749-9964
	Nanoose	April 1982	200	P	-
	Northumberland	April 1982	200	P	-
		July 1982	200	Ob	C9965-10164
	Entrance Is.	July 1982	300	Ob	C10965-11264
Total			5697		

Table 9. Sablefish (Anoplopoma fimbria) otoliths aged in 1982.

Major Area	Locality	Sample date	Total fish	Type of sample	Serial number
3C	W. C. Vanc. Is.	Jan. 1982	300	R	20140-20439
3D	Quatsino Sd.	Nov. 1981	300	R	18459-18758
5A	S. Triangle Is.	Nov. 1981	300	R	18759-19058
		Nov. 1981	300	R	19059-19358
5B	Queen Ch. Sd.	Aug. 1981	100	R	17483-17582
5C	Moresby Gully	Nov. 1981	300	R	19359-19658
5D	White Rocks	Sept. 1980	200	R	16006-16205
	White Rocks	Aug. 1981	100	R	17383-17482
5E	W. C. Queen	June 1977	33	P	1647-1679
	Charlotte Is.	June 1977	217	Ob	1757-1973
		Feb. 1981	200	R	16206-16405
		Feb. 1981	226	R	16406-16631
	Sunday Inlet	Nov. 1981	300	R	19659-19958
	Rennell Sound	Nov. 1981	181	R	19959-20139
Total			3057		

Table 10. Walleye pollock (Theragra chalcogramma) fin rays aged in 1982.

Major Area	Locality	Sample date	Total fish	Type of sample	Serial number
4B	Halibut Bank	March 1981	100	R	P44636-44735
	E. Mayne Is.	April 1981	100	R	P45248-45347
	Halibut Bank	April 1981	100	R	P44136-44235
	E. Mayne Is.	April 1981	100	R	P45447-45535& 45595-45605
	E. Mayne Is.	April 1982	100	P	P63201-63300
Total			500		

Table 11. Pacific herring (Clupea harengus pallasi) scales and otoliths (where indicated) aged in 1982.

Area	Location	Date	Gear	Source	Sample number	Scales aged	Otolith aged
2W	Newcombe Inlet	Mar 18	29	5	326	72	
2W	Louscoone Inlet	" 9	29	5	138	76	
		" 12	29	5	140	70	
		" 13	29	5	139	65	
		" 15	29	5	141	90	
2W	Flamingo Inlet	" 14	29	5	142	84	
2W	Inskip Channel	" 20	29	0	247	78	
		" 21	29	0	276*	68	25
		" 21	29	0	344	82	
		" 21	29	0	313	84	
		" 21	29	0	311	72	
		" 21	29	0	310	75	
2W	Englefield Bay	" 19	29	5	324	70	
2W	Peel Inlet	" 20	29	5	325	91	
2W	Seal Inlet	" 21	29	5	259	92	
		" 21	29	5	260	86	
		" 22	29	0	317*	92	25
		" 22	29	0	308	82	
		" 22	29	0	285	81	
		" 23	29	0	316	89	
		" 23	29	0	340	86	
		" 23	29	0	297	93	
		" 24	29	0	223	93	
		" 24	29	5	262	78	
		" 24	29	5	261	78	
		" 25	29	0	250	84	
01	Shag Rock	Nov 22	29	6	71*	40	50
		" 25	29	6	75*	61	50
		" 25	29	6	73	58	
		" 30	29	6	76*	66	50
		" 30	29	6	68	67	
		" 30	29	6	74*	58	50
		" 30	29	6	65*	70	50
		" 30	29	6	69*	83	50
01	Inskip Point	" 28	29	6	77*	92	50
2E	Skidegate Inlet	Mar 28	29	5	258	0	
2E	Haida Point	" 20	29	5	269	91	
2E	Atli Inlet	" 8	29	5	350	93	
		" 17	29	5	192	83	
		" 18	29	5	194	86	
		" 19	29	5	181	79	
		" 20	29	5	180	84	
		" 22	29	0	249	50	
		" 22	29	0	241	59	
		" 22	29	0	238	54	
		" 22	29	0	239	33	

Table 11 (cont'd)

Area	Location	Date	Gear	Source	Sample number	Scales aged	Otolith aged
2E	Atli Inlet	Mar 22	29	0	287	79	
		" 22	29	0	224	43	
		" 22	29	0	320	50	
		" 22	29	0	237	47	
		" 22	29	0	281*	77	25
		" 22	29	0	240	50	
2E	Powrivco Bay	" 19	29	5	193	91	
		" 21	29	5	255	82	
		" 21	29	5	251	90	
2E	Juan Perez Sound	" 13	29	5	126	81	
		" 13	29	5	127	64	
		" 14	29	0	338	91	
		" 14	29	0	279	94	
		" 14	29	0	275	94	
		" 14	29	0	284	87	
		" 14	29	0	274	79	
		" 14	29	0	144	81	
		" 14	29	0	265	82	
		" 14	29	0	145	74	
		" 14	29	0	331	80	
		" 14	29	0	343	92	
		" 14	29	0	263	94	
		" 14	29	0	305	77	
		" 15	29	5	137	79	
2E	Cumshewa Inlet	" 30	29	5	349	92	
2E	Conglomerate Point	" 27	29	5	252	87	
2E	Skincuttle Inlet	" 7	29	5	351	36	
		" 12	29	5	128	75	
2E	Bag Harbour	" 20	19	0	294	69	
		" 20	19	0	248	63	
		" 20	19	0	246	58	
		" 22	19	0	301	49	
2E	Island Bay	" 14	29	5	129	65	
2E	Section Cove	" 18	29	4	202	94	
2E	Wanderer Island	" 14	29	0	201	71	
		" 14	29	5	191	87	
2E	Slim Inlet	" 20	19	0	312	65	
		" 21	19	0	289	71	
		" 22	19	0	309	69	
		" 22	19	0	337	82	
2E	Louise Island	" 25	29	5	254	86	
		" 25	29	5	253	48	
		" 25	29	5	256	80	
3	Union Inlet/Bay	" 14	29	5	334	86	
3	Wales Passage	" 13	29	5	328	83	
		" 19	29	5	266	90	

Table 11 (cont'd)

Area	Location	Date		Gear	Source	Sample number	Scales aged	Otolith aged
3	Iceberg Bay	Mar	13	29	5	329*	89	25
3	Steamer Pass	"	11	29	5	135	90	
3	Birnie Island	"	14	29	5	300	84	
3	Sommerville Bay	"	12	29	5	136	81	
		"	18	29	5	327	88	
5	Gasboat Passage	"	28	29	5	298	66	
5	Kitkatla Inlet	"	26	29	5	321*	72	25
5	Ness Islands	"	27	29	5	336	77	
		"	29	29	5	273	96	
5	Absalom Island	"	27	29	5	346	91	
5	Robert Island	"	23	29	5	347	89	
5	Gurd Island	"	28	29	5	342	89	
		"	29	29	5	306	81	
		"	30	29	5	257	88	
5	Snass Point	"	23	29	5	348	82	
		"	27	29	5	267	88	
6	Rennison Island	"	21	29	5	376	75	
6	Kitasu Bay	"	4	29	5	130	80	
		"	4	29	5	36	83	
		"	8	29	5	228	84	
		"	12	29	5	164	73	
		"	12	29	5	167	88	
		"	19	29	5	230	88	
		"	21	19	0	335	67	
		"	21	19	0	288	67	
		"	21	19	0	283	46	
		"	21	19	0	341	52	
6	Thistle Passage	"	5	29	5	32	89	
		"	13	29	5	165	87	
6	Higgins Passage	"	10	29	5	131	75	
		"	19	29	5	375	96	
		"	21	19	0	277	61	
7	Dundivan Inlet	"	5	29	5	34	76	
		"	12	29	5	245	81	
7	Lama Passage	"	7	29	4	303	36	
7	Cultus Sound	"	28	29	5	377	91	
7	St. John Harbour	"	10	29	4	379	69	
7	Stryker Island	"	8	29	5	33	81	
		"	8	29	5	132	79	
		"	13	29	5	234	87	
		"	14	29	5	231	73	
		"	15	29	0	143	60	
7	Boddy Passage/Narrows	"	7	29	5	35	86	
		"	13	29	5	225	89	
		"	14	29	5	244	84	
		"	20	29	5	226	85	

Table 11 (cont'd)

Area	Location	Date		Gear	Source	Sample number	Scales aged	Otolith aged
7	Thompson Bay	Mar	16	29	5	163	83	
		"	17	29	5	176	79	
		"	18	29	5	243	92	
		"	20	29	5	229	96	
		"	21	19	0	268	77	
7	Waskesiu Pass	"	9	29	5	134	63	
		"	14	29	5	166	62	
		"	15	29	5	162	89	
		"	22	19	0	307	58	
7	Princess Alice Island	"	21	29	5	236	76	
7	Stryker Bay	"	14	29	5	227	91	
		"	15	29	0	339	83	
		"	15	29	0	292	76	
		"	15	29	0	272	88	
		"	15	29	0	314	86	
		"	15	29	0	270	82	
		"	16	29	5	242	92	
7	Cape Mark	"	17	19	0	195	63	
		"	17	19	0	197	49	
		"	17	19	0	200	61	
		"	17	19	0	199*	62	25
		"	17	19	0	198	59	
		"	17	19	0	196	76	
		"	18	19	0	332	70	
		"	18	19	0	278	58	
		"	18	19	0	345	57	
		"	18	19	0	295	86	
		"	18	19	0	304	67	
		"	18	19	0	290	67	
		"	19	19	0	293	70	
		"	19	19	0	291	64	
7	Houghton Islands	"	17	29	5	235	94	
		"	17	29	5	232	87	
8	Warrior Cove	"	24	29	5	378	94	
8	Kwakshua Channel	"	11	29	5	133	90	
		"	19	29	5	233	90	
12	Beaver Harbour	"	18	29	5	188	75	
12	Clio Channel	"	15	29	5	216*	85	25
12	Minstrel Island	"	16	29	5	211	90	
12	Knight Inlet	"	15	29	4	184	88	
12	Wakeman Sound	"	16	29	5	210	82	
		"	16	29	5	212	90	
13	Chonat Bay	Nov	11	29	2	2	83	
		"	11	29	2	14	88	
		"	16	29	2	5	90	
		"	23	29	2	57	89	

Table 11 (cont'd)

Area	Location	Date		Gear	Source	Sample number	Scales aged	Otolith aged
13	Chonat Bay	Nov	23	29	2	59	84	
13	Deepwater Bay	"	15	29	2	1	86	
		"	18	29	2	7*	88	50
		"	22	29	2	62	74	
		"	23	29	6	86	89	
		"	23	29	6	85	91	
13	Smelt Bay	Mar	9	29	5	330	46	
13	Marina Island	"	10	29	5	215	71	
		"	11	29	5	213	75	
		"	11	29	5	207	78	
13	Kanish Bay	Nov	10	29	2	30	86	
		"	10	29	2	11	87	
		"	17	29	2	8*	82	50
		"	17	29	2	10	85	
13	Sutil Channel	Mar	9	29	5	217	87	
		"	9	29	5	221	75	
		"	10	29	5	183	76	
		"	11	29	5	189	71	
13	Heriot Bay	"	7	29	5	114	72	
		"	7	29	5	101	83	
		"	9	29	5	121	78	
		"	10	29	5	206	91	
13	Rebecca Spit	"	6	29	5	323	84	
13	Drew Harbour	"	8	29	5	115	73	
13	Hoskyn Channel	"	1	29	5	112	88	
		"	6	29	5	98	91	
		"	7	29	5	113	65	
14	Lambert Channel	Feb	28	29	5	67	72	
		Mar	1	29	5	49	67	
		"	4	29	5	69	60	
		"	6	29	5	65	76	
14	Deep Bay	Feb	16	29	5	11	62	
		"	27	29	5	52	66	
14	Northwest Bay	Mar	5	19	0	21	41	
		"	5	19	0	20*	59	25
		"	7	29	5	61	82	
14	Bowser	"	5	19	0	31	48	
		"	5	19	0	24	40	
		"	5	19	0	19	49	
		"	5	19	0	28	60	
		"	5	19	0	30	59	
		"	6	29	5	57	69	
14	Comox Bar	"	5	19	0	286	55	
		"	5	19	0	282	59	
		"	6	19	0	315	51	
14	French Creek	"	7	29	5	48	70	

Table 11 (cont'd)

Area	Location	Date		Gear	Source	Sample number	Scales aged	Otolith aged
14	Komas Bluff	Mar	5	19	0	25	38	
		"	5	19	0	27	58	
		"	5	19	0	22	51	
		"	5	29	5	203	78	
		"	6	19	0	23	28	
14	Phipps Point	"	5	19	0	26	73	
14	Parksville	"	6	29	5	55	62	
14	Denman Island (East)	"	5	19	0	29	64	
15	Sliammon Village	Feb	27	29	5	4	77	
		"	28	29	5	1	77	
15	Lund	"	23	29	5	18	77	
		Mar	2	29	5	322	74	
		"	5	29	5	102	83	
		"	19	29	5	185	78	
15	Malaspina Inlet	Feb	26	29	5	2	66	
15	Hurtado Point	Mar	3	29	5	99	90	
		"	3	29	5	100	76	
15	Powell River Mill	"	20	29	5	204	78	
16	Westview	Feb	28	29	5	109	87	
16	Myrtle Point	Mar	2	29	5	125	81	
17	Trincomali Channel	Feb	17	29	5	6	36	
		"	25	29	5	3	62	
		Dec	1	29	6	39	72	
		"	1	29	6	36	78	
		"	1	29	6	45	75	
17	Yellow Point	Nov	25	29	6	25*	77	50
		Dec	1	29	2	64	83	
17	Porlier Pass	Feb	19	29	5	68	53	
		"	27	29	5	9	62	
		Mar	2	29	5	56	75	
		"	2	29	5	66	73	
		"	4	29	5	51	60	
		"	7	29	5	64	69	
		"	11	29	5	205	76	
		Nov	10	59	4	4*	76	50
		"	16	29	2	63	80	
		"	16	29	2	31	69	
		"	22	29	6	12	80	
		"	22	29	6	21	76	
		"	23	59	6	13	79	
		"	24	29	6	20	67	
		"	24	29	6	16	70	
		"	24	29	6	18	80	
		"	30	29	6	40	81	
		"	30	59	6	42	72	
		Dec	1	59	6	46	62	

Table 11 (cont'd)

Area	Location	Date		Gear	Source	Sample number	Scales aged	Otolith aged
17	Porlier Pass	Dec	7	29	2	70	77	
		"	7	29	2	72	75	
		"	9	29	2	84	83	
17	Pylades Channel	Mar	7	29	0	43	60	
		"	7	29	0	45	67	
		"	7	29	0	41	57	
		"	7	29	0	40	64	
		"	7	29	0	37	49	
		"	7	29	0	44	71	
		"	7	29	0	42	69	
		"	7	29	0	38	58	
		"	7	29	5	220	72	
		"	7	29	5	190	66	
		"	7	29	5	187	66	
		"	7	29	5	209*	62	25
		"	8	29	0	318	27	
17	Hall Island	Feb	22	29	5	10	63	
		Mar	8	29	5	182	66	
		Nov	23	29	6	9	80	
		"	23	29	6	6	71	
		"	24	29	6	17*	74	50
17	Galiano Island	"	30	29	6	41	74	
		"	30	29	6	44	81	
17	Danger Reefs	"	29	29	6	38*	60	50
		"	30	29	6	28	69	
17	Reid Island	"	22	29	6	15	76	
		"	26	59	6	19	68	
17	Boat Harbour	"	18	29	2	3	83	
17	Gabriola Passage	Mar	7	29	0	46	65	
17	Telegraph Harbour	Nov	25	29	2	67	42	
17	De Courcy Island	Mar	7	29	0	39	58	
		Nov	15	29	2	27	78	
		"	29	59	6	35*	82	50
17	Boulder Point	"	29	29	2	55	74	
		"	30	29	2	47	75	
17	Crofton	"	7	29	2	34	65	
17	Hospital Pt. (Chemainus)	"	16	29	2	24	81	
		"	25	29	2	60	96	
		Dec	13	29	2	78	79	
		"	13	29	2	82	74	
17	Stuart Channel	Mar	8	29	5	222	73	
		Nov	9	29	2	32	81	
		"	17	29	2	29	77	
		"	18	29	2	23	75	
		"	19	29	2	58	78	
		"	19	29	2	54	70	

Table 11 (cont'd)

Area	Location	Date		Gear	Source	Sample number	Scales aged	Otolith aged
17	Stuart Channel	Dec	7	29	2	66	75	
		"	7	29	2	80	63	
		"	8	29	2	83	81	
		"	8	29	2	79	68	
17	Ruxton Pass	Jan	29	29	2	137	66	
		Nov	17	29	2	22*	88	50
17	Ruxton Island	"	29	29	6	33*	67	50
17	Wallace Island	Jan	19	29	2	136	70	
		Nov	28	29	2	49	80	
		"	29	29	2	61	74	
17	Kulleet Bay	"	30	29	2	52	85	
17	Secretary Islands	"	30	29	2	51	77	
		"	30	29	6	37*	67	50
		"	30	29	6	43	72	
17	Nanoose Bay	Feb	16	29	5	16	58	
		"	21	29	5	15	60	
		"	25	29	5	17	68	
		"	27	29	5	63	76	
		"	28	29	5	50	73	
		"	28	29	5	47	63	
		Mar	3	29	5	54	64	
		"	4	29	5	60	68	
		"	6	29	5	58	72	
17	Nanoose Bay Entrance	Dec	8	29	2	81	92	
17	Crescent Point	Nov	9	29	2	26	81	
18	Satellite Channel	Feb	26	29	5	14	53	
18	Plumper Sound	"	23	29	5	13	46	
		"	25	29	5	7	61	
		Mar	11	29	5	214	82	
		"	17	29	5	59	62	
18	Isabella Point	Feb	18	29	5	5	64	
18	Portlock Point	"	24	29	5	8	49	
19	Albert Head	Nov	24	29	2	50	71	
19	Race Rocks	"	24	29	2	56	61	
		"	25	29	2	53	72	
		"	26	29	2	48*	72	50
23	Middle (imperial Eagle)	Mar	6	29	5	78	60	
23	Western (Loudoun) Chan.	Feb	27	29	5	72	57	
23	Mayne Bay	"	22	29	5	74	48	
23	Macoah Passage	Mar	7	29	5	76	62	
23	Forbes Island	"	8	29	5	77	63	
		"	11	29	5	218	73	
		"	11	29	5	208	62	
		"	11	29	5	186	70	
		"	11	29	5	219	72	
		"	16	29	0	173	71	

Table 11 (cont'd)

Area	Location	Date		Gear	Source	Sample number	Scales aged	Otolith aged
23	Forbes Island	Mar	16	29	0	178	73	
		"	17	29	0	174*	50	25
		"	17	29	0	175	66	
		"	17	29	0	177	68	
		"	17	29	0	168	69	
		"	17	29	0	179	75	
		"	18	29	0	172	61	
		"	18	29	0	171	61	
		"	18	29	0	170	58	
23	Coaster Channel	"	7	29	5	80	46	
23	David Island	"	18	29	0	169	60	
23	Maggie River	"	14	29	5	148	39	
		"	14	29	5	149	45	
		"	16	29	0	147	67	
23	Lyall Point	Feb	20	29	5	73	61	
		"	20	29	5	70	75	
23	Chrow Islands	"	23	29	5	12	57	
		Mar	3	29	5	53	48	
		"	5	29	5	81	68	
		"	6	29	5	79	65	
23	Pinacle Rock	"	3	29	5	75	50	
		"	4	29	5	71	73	
		"	4	29	5	62	72	
		"	6	29	5	123	62	
23	Unknown Sec. 232	"	16	29	5	146	45	
24	Millar Channel	"	11	29	5	365	75	
		"	12	29	5	372	75	
24	Bawden Bay	"	5	29	5	361	73	
		"	13	29	5	356	74	
24	Shelter Arm (Inlet)	"	1	29	5	369	90	
24	Sydney Inlet	Feb	26	29	5	352	77	
		Mar	4	29	5	354	82	
		"	4	29	5	366	76	
		"	11	29	5	363	64	
24	Hootla Kootla +	"	7	29	5	368	63	
24	Saranac Island	"	2	29	5	364	84	
		"	4	29	5	373	77	
24	Maurus Channel	"	6	29	5	355	76	
		"	7	29	5	359	68	
		"	9	29	5	374	73	
		"	10	29	5	360	71	
24	Starling Point	"	13	29	5	371	76	
24	Father Charles Channel	"	8	19	0	88	64	
		"	8	19	0	93	48	
		"	8	19	0	86	49	
		"	8	19	0	83	64	

Table 11 (cont'd)

Area	Location	Date		Gear	Source	Sample number	Scales aged	Otolith aged
24	Father Charles Channel	Mar	8	19	0	85	50	
		"	8	19	0	82	35	
		"	8	29	0	87	63	
		"	8	29	0	89	54	
		"	8	29	0	92	65	
		"	8	29	0	118	57	
		"	8	29	0	95	75	
		"	8	29	0	119	52	
		"	8	29	0	91	86	
		"	9	19	0	280	42	
		"	9	29	5	362	53	
25	Esperanza Inlet	"	5	29	5	152	76	
		"	5	29	5	153	81	
		"	7	19	0	296	58	
		"	7	19	0	271	26	
		"	8	19	0	302	45	
		"	9	29	5	154	77	
		"	15	29	5	370	80	
25	Nuchatlitz Inlet	"	7	19	0	97	68	
		"	7	19	0	120	76	
		"	7	19	0	117	72	
		"	7	19	0	90	57	
		"	7	19	0	94	65	
		"	7	19	0	84	44	
25	Rosa Island	Feb	26	29	5	158	87	
		Mar	9	29	5	157	87	
25	Rosa Harbour	"	13	29	5	358	72	
25	Double Island	"	3	29	5	151	79	
25	Centre Island	"	2	29	5	150	75	
		"	13	29	5	353	70	
		"	15	29	5	357	77	
		"	17	29	5	367	80	
25	Unknown Sec. 252	"	6	29	5	156	92	
		"	6	29	5	155	83	
26	Rugged Point	"	6	1	5	110	45	
27	Klaskish Inlet	"	3	29	5	104	82	
		"	3	29	5	105	80	
		"	6	29	5	103	81	
		"	10	29	5	161	66	
		"	22	29	5	111	84	
27	Winter Harbour	"	7	19	0	122*	63	25
		"	7	29	0	96	61	
		"	8	29	0	116	75	
		"	9	19	0	264	46	
27	Forward Inlet	Feb	27	29	5	107	83	
		Mar	4	29	5	108	82	

Table 11 (cont'd)

Area	Location	Date		Gear	Source	Sample number	Scales aged	Otolith aged
27	Forward Inlet	Mar	11	29	5	160	95	
27	Hazard Point	"	2	29	5	106	91	
		"	5	29	5	124	85	
		"	9	29	5	159	92	
Total							33491	1175

Table 12A. Number of groundfish samples aged during 1983 by species and International Area.

Species/Area	3C	3D	4A	4B	5A	5B	5C	5D	5E	10	Total
Rockfish											
Pacific ocean perch	1	-	-	-	-	1	-	-	-	-	2
Other roundfish											
Lingcod	3	-	-	1	1	-	-	-	-	-	5
Pacific hake	2	-	-	7	-	-	-	-	-	-	9
Sablefish	-	2	-	-	1	3	-	-	1	-	7
Groundfish total	6	2	-	8	2	4	-	-	1	-	23

Table 12B. Number of Pacific herring samples aged during 1983 by Minor Area.

Minor Area	No. of samples
2W	38
2E	41
3	29
4	5
5	20
6	18
7	66
8	1
12	3
13	6
14	30
15	58
16	6
17	51
18	6
23	22
24	12
25	13
27	3
Total	428

Table 12C. Number of chinook salmon samples aged during 1983 by minor area.

Minor Area	No. of samples
13	3
Total	3

Table 13. Number of, and percent of total ages resolved, by species, during 1983.

Species	Resolved ages	Percent of groundfish	Percent of total
Rockfish			
Pacific ocean perch	800	13.5	1.8
Other roundfish			
Lingcod	1763	30.0	3.9
Pacific hake	1920	32.5	4.3
Sablefish	1431	24.2	3.2
Groundfish sub-total	5914*		13
Pacific herring	37140**		83
Pacific salmon			
Chinook	1869***		4
Total	44923		

*Resolved groundfish ages require 2-3 readings per structure.

**Herring otoliths require 2-3 readings per structure.
Herring scales (usually 1 per fish) are aged by individual readers. However, those with a difficult pattern from each area are aged and discussed by 2 readers.

***Salmon ages require 2 readings for each structure.

Table 14. Pacific ocean perch (Sebastes alutus) otoliths aged in 1983.

Major Area	Locality	Sample date	Total fish	Type of sample	Serial number
3C	W. C. V. I.	Nov. 1982	300	R	BMLRF 11101-11300 & 14401-14500
5B	S. E. Corner G.I.G.	Nov. 1982	500	R	BMLRF 14501-15000
Total			800		

Table 15. Lingcod (Ophiodon elongatus) fin sections aged in 1983.

Major Area	Locality	Sample date		Total fish	Type of sample	Serial number
3C	Big Bank	June	1981	259	P	9435-9694
		June	1982	200	P	10853-11053
		July	1982	347	R	12732-13078
4B	Gulf Is.	Sept.	1981	634	P	8801-9434
5A	Cape Scott	May	1981	323	P	7903-8225
Total				1763		

Table 16. Pacific hake (Merluccius productus) otoliths aged in 1983.

Major Area	Locality	Sample date	Total fish	Type of sample	Serial number
3C	Finger Bank	Aug. 1983	292	R	H18476-19037
	Big Bank	Sept. 1983	286	R	H20734-21019
4B	Halibut Bank	Mar. 1981	106	R	C3692-3797
		Apr. 1981	92	R	C3890-3981
	S. of Thormanby Is.	Nov. 1982	300	Ob.	C13633-15932
		Feb. 1983	227	R	H14683-14909
		Feb. 1983	267	R	H14910-15176
		Feb. 1983	224	R	H15177-15400
	Active Pass	May 1983	126	R	H17538-17663
Total			1920		

Table 17. Sablefish (Anoplopoma fimbria) otoliths aged in 1983.

Major Area	Locality	Sample date	Total fish	Type of sample	Serial number
3D	Kyuquot Sound	Oct. 1982	339	R	25145-25483
	Winter Harbour	Oct. 1982	297	R	25484-25780
5A	South of Triangle Island	Oct. 1982	243	R	25781-26023
5B	Mitchell Gully	Oct. 1982	160	R	26024-26183
		Oct. 1982	81	R	26184-26264
		Oct. 1982	131	R	26265-26395
5E	Rennell Snd.	Nov. 1982	330	R	26700-27029
Total			1431		

Table 18. Chinook salmon (Oncorhynchus tshawytscha) scales aged in 1983.

Minor Area	Locality	Sample date	Total fish
13	Campbell River	April 16 - May 7	718
	Comox	April 15 - May 5	545
	Deep Bay	April 15 - May 6	606
Total			1869

Table 19. Pacific herring (Clupea harengus pallasi) scales and otoliths (where indicated) aged in 1983.

Area	Location	Date		Gear	Source	Sample number	Scales aged	Otolith aged
2W	Port Louis	Mar	1	29	5	386	84	
		"	2	29	5	97	97	
		"	2	29	5	147	80	
		"	3	29	5	118*	94	94
		"	3	29	5	115	92	
		"	3	29	5	264	96	
		"	4	29	5	132	93	
		"	4	29	5	139	96	
		"	6	29	5	114	93	
		"	6	29	5	123	85	
2W	Inskip Channel	"	11	29	5	181	95	
		"	12	29	5	183	97	
		"	13	29	5	177	96	
		"	14	29	5	176	97	
		"	15	29	5	256	96	
		"	17	29	5	196	83	
		"	18	29	5	191	97	
		"	19	29	5	206	96	
		"	20	29	5	180	93	
		"	21	29	0	316	87	
		"	21	29	0	426	83	
		"	21	29	0	287	98	
		"	21	29	0	320	90	
		"	21	29	0	188	59	
		"	21	29	0	333	88	
		"	21	29	0	403	89	
		"	21	29	0	374	96	
		"	21	29	0	352	77	
		"	21	29	0	368	93	
		"	21	29	0	324	85	
		"	21	29	0	422	95	
2W	Boomchain Bay	"	9	29	5	213	91	
		"	10	29	5	208	98	
2W	Rennell Sound	"	1	29	5	98	95	
		"	15	29	5	185	94	
		"	16	29	5	186	87	
		"	23	29	5	194	91	
2W	Skindaskum Island	"	13	29	5	189	79	
2E	Skidegate Inlet	May	1	29	1	432	92	
		"	1	29	1	433	61	
		"	1	29	4	431	95	
2E	Selwyn Inlet	Mar	23	29	5	190	94	
2E	Juan Perez Sound	"	8	29	0	390	95	
		"	9	29	0	357	86	

Table 19 (cont'd)

Area	Location	Date	Gear	Source	Sample number	Scales aged	Otolith aged
2E	Juan Perez Sound	Mar 9	29	0	404	96	
		" 9	29	0	345	81	
		" 9	29	0	362	93	
		" 9	29	0	343	83	
		" 9	29	5	102	96	
		" 12	29	5	295	96	
2E	Sewell Inlet	" 28	29	5	204	94	
2E	Cumshewa Inlet	" 22	29	5	197	94	
		" 23	29	5	214	89	
2E	Jedway	May 4	29	4	429	90	
		" 4	29	4	430	93	
2E	Huxley Island	Mar 7	29	5	95	93	
		" 9	29	0	384	78	
		" 9	29	0	371	86	
		" 9	29	0	355	79	
		" 9	29	0	405	86	
		" 16	29	5	198	89	
2E	Skincuttle Inlet	" 10	29	5	232	93	
2E	Bag Harbour	Feb 28	1	4	120	96	
		" 28	1	4	117	96	
2E	Dolomite Narrows	Mar 8	29	5	101	96	
2E	Kingfisher Cove	" 23	29	0	411	53	
2E	Kat Island	" 12	29	5	281	92	
2E	Poole Inlet	" 15	19	0	300	43	
		" 15	19	0	303	63	
		" 15	19	0	227*	99	100
		" 15	19	0	195	87	
		" 15	19	0	260	24	
		" 15	19	0	350	42	
		" 15	19	0	285	56	
		" 15	19	0	210	63	
		" 15	19	0	254	49	
		" 15	19	0	253	89	
		" 15	19	0	313	55	
		" 15	19	0	211	77	
3	Union Inlet/Bay	" 10	29	5	421	95	
		" 10	29	5	331*	92	70
3	Wales Passage	" 18	29	5	311	96	
		" 18	29	5	346	95	
3	Nasoga Gulf	" 13	29	5	310	92	
		" 13	29	5	370	95	
3	Steamer Pass	" 11	29	5	353	93	
		" 11	29	5	369	95	
		" 13	29	5	418	94	
		" 13	29	5	424	89	
3	Stumaun Bay	" 14	29	5	327	84	

Table 19 (cont'd)

Area	Location	Date	Gear	Source	Sample number	Scales aged	Otolith aged
3	Stumaun Bay	Mar 18	29	5	319	89	
		" 18	29	5	315	96	
		" 18	29	5	323	97	
		" 18	29	5	427	99	
		" 21	29	5	382	97	
		" 21	29	5	314	91	
		" 27	29	5	307	94	
		" 27	29	5	409	94	
		Apr 14	29	5	372	90	
		" 14	29	5	379	82	
		" 16	29	5	360	74	
3	Cunningham Pass	Mar 9	29	5	328	90	
		" 19	29	5	359	96	
		" 27	29	5	408	90	
		" 27	29	5	341	91	
3	Sommerville Bay	" 12	29	5	338	80	
3	Haida Bay	" 17	29	5	337	93	
		" 17	29	5	387	97	
4	Pearl Harbour	" 22	29	5	325	98	
4	Edye Passage	Apr 2	29	5	306	83	
		" 2	29	5	340	97	
		" 3	29	5	348	92	
		" 4	29	5	351	84	
5	Wilson Inlet	" 13	29	5	330	85	
		" 13	29	5	308	87	
5	Tangent Island	" 13	29	5	354	71	
		" 13	29	5	417	87	
5	Freeman Passage	Mar 24	29	5	312	95	
5	Kitkatla Inlet	" 25	29	5	321	99	
		" 25	29	5	326	95	
5	Serpentine Inlet	" 29	29	5	373	96	
		" 29	29	5	376	96	
5	Robert Island	" 28	29	5	364	94	
		" 28	29	5	329	94	
5	Gurd Island	" 17	29	5	375	96	
		" 17	29	5	419	88	
		" 17	29	5	332	91	
		" 25	29	5	407	95	
		" 25	29	5	339	93	
		" 28	29	5	336	79	
		" 28	29	5	347	95	
5	Snass Point	" 24	29	5	309	95	
		" 24	29	5	356	91	
6	Parker Passage	" 21	19	0	318	71	
6	Parsons Anchorage	Apr 12	29	5	428	69	
6	Kitasu Bay	Mar 3	29	5	72	70	

Table 19 (cont'd)

Area	Location	Date	Gear	Source	Sample number	Scales aged	Otolith aged
6	Kitasu Bay	Mar 4	29	5	70	71	
6	Thistle Passage	" 8	29	5	82	94	
		Apr 13	29	5	420	82	
6	Higgins Passage	Mar 9	29	5	85	98	
		" 10	29	5	83	98	
		" 13	29	5	110	96	
		" 14	29	5	111	95	
		" 16	29	5	276	97	
		" 17	29	5	290	97	
		" 21	19	0	179	50	
		" 21	19	0	205	42	
6	Larkin Point	" 21	19	0	412	84	
6	Price Island	" 21	19	0	184	81	
		" 21	19	0	212	63	
		" 21	19	0	175	81	
7	Lama Passage	" 20	29	5	277	92	
7	Raymond Pass	" 5	29	5	87	95	
		" 12	29	5	129	90	
7	Spiller Channel	" 22	29	5	258	78	
7	Berry Inlet	" 2	29	5	63	81	
		" 10	29	5	169	91	
7	Powell Anchorage	" 19	29	5	246	100	
		" 23	19	0	187	92	
7	Ivory Island	" 23	19	0	363	80	
		" 23	19	0	410	48	
7	Cecilia Island	" 23	19	0	414	71	
		" 23	19	0	344	85	
7	St. John Harbour	" 23	19	0	193	64	
7	Reid Passage	" 19	29	5	257	93	
		" 23	19	0	201	85	
		" 23	19	0	365	82	
		" 23	19	0	178	81	
7	Stryker Island	" 15	29	5	113	95	
		" 17	29	0	273	91	
		" 18	29	5	230	100	
7	Boddy Passage/Narrows	" 1	29	5	64	83	
		" 1	29	5	66	82	
		" 9	29	5	234	96	
7	Thompson Bay	" 2	29	5	62	82	
		" 6	29	5	93	97	
		" 8	29	5	162	95	
		" 11	29	5	239	93	
		" 12	29	5	140	90	
		" 13	29	5	135	96	
		" 14	29	5	156	95	
		" 14	29	5	130	94	

Table 19 (cont'd)

Area	Location	Date		Gear	Source	Sample number	Scales aged	Otolith aged
7	Thompson Bay	Mar	15	29	0	342	92	
		"	15	29	0	400	97	
		"	15	29	0	283	93	
		"	15	29	0	425	84	
		"	15	29	0	423	90	
		"	15	29	0	288	84	
		"	15	29	0	385	82	
		"	15	29	0	349	89	
		"	15	29	0	334	91	
		"	15	29	0	415	70	
		"	15	29	0	302	91	
		"	15	29	0	413	94	
		"	15	29	0	286	95	
		"	23	19	0	367	52	
		"	23	19	0	182	88	
		"	23	19	0	381	68	
7	Waskesiu Pass	"	2	29	5	67	69	
		"	10	29	5	142	95	
7	Princess Alice Island	"	23	19	0	322	78	
		"	23	19	0	192	78	
7	Stryker Bay	"	6	29	5	86	98	
		"	7	29	5	298	90	
		"	11	29	5	141	93	
		"	12	29	5	112	93	
		"	18	29	5	203	91	
		"	23	19	0	200	93	
		"	23	19	0	207	84	
7	Cape Mark	"	18	19	0	366	79	
7	Louise Channel	"	17	29	5	223	94	
7	Joassa Channel	"	4	29	5	65	84	
7	Houghton Islands	"	12	29	5	137	91	
		"	15	29	5	160	90	
		"	23	19	0	317	84	
7	Thompson Bay (Head)	"	2	29	5	267	98	
		"	3	29	5	68	82	
8	Kwakshua Channel	"	6	29	5	202	96	
12	Clio Channel	"	17	29	5	236	95	
12	Wahshihlas Bay	"	14	29	4	231	89	
12	Wahkash Creek	"	16	1	5	126*	96	100
13	Deepwater Bay	Feb	26	29	5	14	90	
		Mar	18	29	5	131	88	
13	Evans Bay	"	1	29	5	39	90	
13	Heriot Bay	Mar	14	29	5	138	89	
13	Hoskyn Channel	Feb	28	29	5	41	96	
		"	28	29	5	35	86	
14	Lambert Channel	"	27	19	0	275	61	

Table 19 (cont')

Area	Location	Date	Gear	Source	Sample number	Scales aged	Otolith aged
14	Lambert Channel	Feb 27	19	0	269	75	
		Mar 18	29	5	122	90	
14	Denman Island	Feb 27	29	0	383	81	
14	Deep Bay	" 18	29	5	15	77	
		" 23	29	5	12	83	
		" 23	29	5	25	79	
		" 25	29	5	28	80	
14	Baynes Sound	" 27	29	0	393	83	
		" 27	29	0	392	90	
14	Comox Harbour	" 27	29	0	401	89	
		" 27	29	0	394	87	
		" 27	29	0	399	92	
		" 27	29	0	396	79	
		" 27	29	0	388	90	
		" 27	29	0	402	88	
		" 27	29	0	398	89	
		" 27	29	5	170	94	
14	Northwest Bay	Mar 2	29	5	299	88	
		" 10	29	5	224	92	
14	Bowser	" 1	29	5	268	94	
14	Comox Bar	Feb 27	29	0	397	91	
14	Komas Bluff	" 27	19	0	249	74	
		" 27	19	0	274	59	
		" 27	19	0	284*	63	90
		" 28	19	0	259	75	
14	Chrome Island	" 28	29	5	243	88	
14	Sandy Island	" 26	29	5	221	85	
		" 26	29	5	247	85	
		" 27	29	5	217	88	
15	Sliammon Village	Mar 2	29	5	237	92	
		" 4	29	5	50	89	
		" 5	29	0	266	94	
		" 5	29	0	294	86	
		" 5	29	0	96	95	
		" 5	29	0	261	82	
		" 5	29	0	272	92	
		" 5	29	0	263	93	
		" 5	29	0	291	87	
		" 5	29	0	255	95	
		" 5	29	0	104	95	
		" 5	29	0	99	94	
		" 5	29	5	228	90	
		" 5	29	5	244	94	
		" 6	29	5	150	90	
		" 6	29	5	88	97	
		" 6	29	5	71	98	

Table 19 (cont'd)

Area	Location	Date			Gear	Source	Sample number	Scales aged	Otolith aged
15	Sliammon Village	Mar	7	29		5	81	93	
		"	7	29		5	89	94	
		"	7	29		5	75	89	
		"	9	29		5	78	95	
15	Lund	Feb	16	29		5	270	97	
		"	23	29		5	24	92	
		"	25	29		5	20	80	
		"	26	29		5	19	88	
		"	27	29		5	31	91	
		"	28	29		5	32	90	
		"	28	29		5	37	94	
		Mar	1	29		5	30	86	
		"	1	29		5	36	98	
		"	1	29		5	56	96	
		"	2	29		5	40	96	
		"	3	29		5	157	96	
		"	3	29		5	159	87	
		"	4	29		5	163	90	
		"	4	29		5	152	95	
		"	4	29		5	155	92	
		"	4	29		5	151	91	
		"	17	29		5	124	90	
15	Harwood Island	"	4	29		0	380	85	
15	Dinner Rock	"	11	29		5	80	91	
15	Powell River Mill	Feb	26	29		5	18	82	
		"	27	29		5	235	90	
		"	28	29		5	52	91	
		"	28	29		5	38	98	
		Mar	3	29		5	289	88	
		"	3	29		5	172	88	
		"	3	29		5	305*	93	100
		"	4	29		0	107	97	
		"	4	29		0	265	94	
		"	4	29		0	282	92	
		"	4	29		0	250	91	
		"	4	29		5	61	94	
		"	4	29		5	92	95	
		"	4	29		5	241	90	
		"	4	29		5	55	98	
		"	5	29		5	76	92	
		"	5	29		5	90	95	
16	Westview	"	2	29		5	164	91	
		"	4	29		5	165	92	
		"	5	29		5	153	84	
		"	8	29		5	91	87	
		"	9	29		5	215	89	

Table 19 (cont'd)

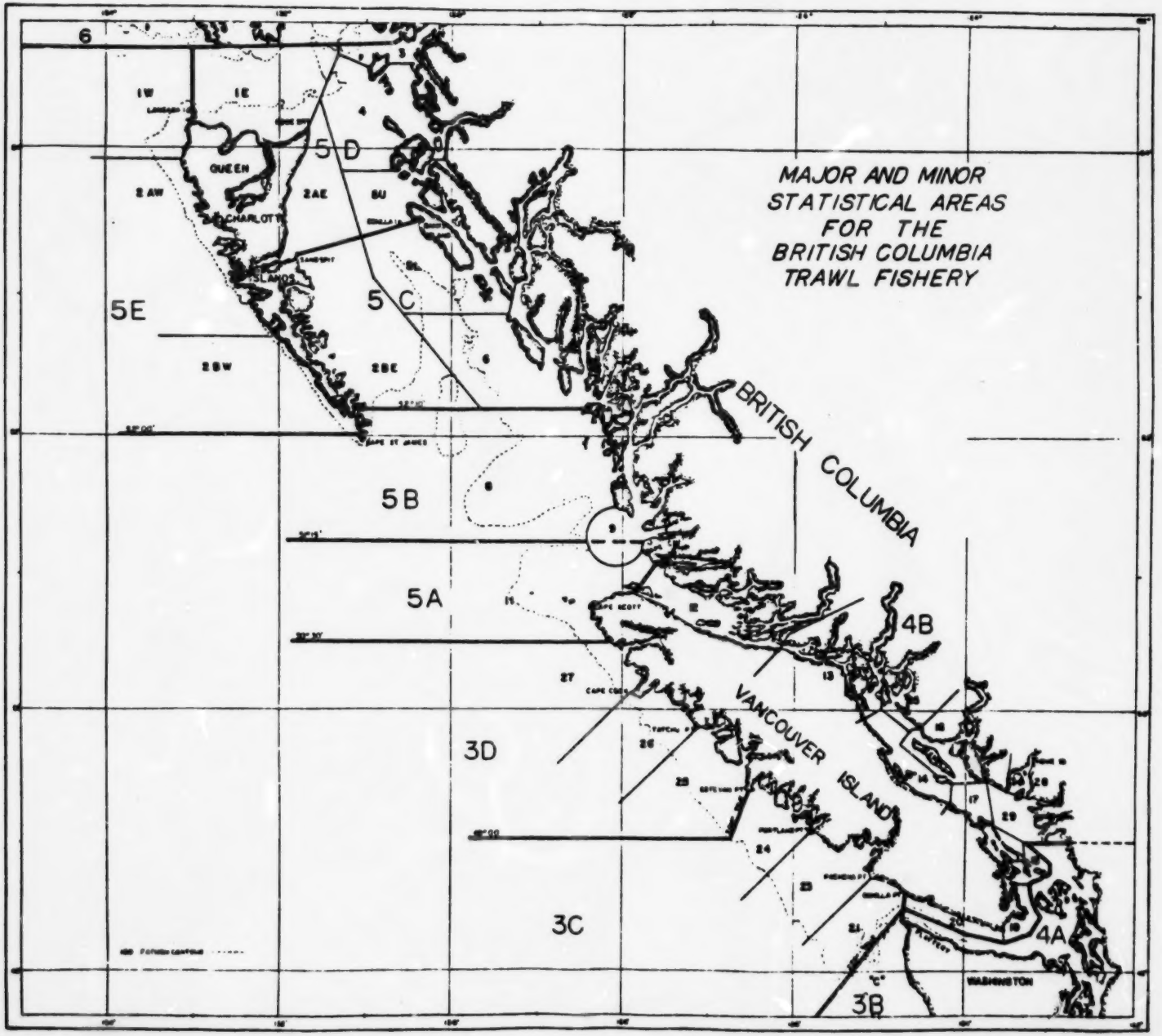
Area	Location	Date	Gear	Source	Sample number	Scales aged	Otolith aged
16	Myrtle Point	Feb 24	29	5	16	84	
17	Harmac	Mar 4	29	5	74	97	
		Jan 13	29	2	8	80	
		" 13	29	2	9	78	
		" 15	29	2	7	87	
		" 17	29	2	1	90	
		" 18	29	2	13	75	
		" 18	29	2	6	81	
		" 19	29	2	10	74	
		" 19	29	2	3	76	
		" 20	29	2	2	83	
		" 21	29	2	17	87	
		" 21	29	2	4	78	
		" 21	29	2	5	84	
		" 22	29	2	11	72	
		Feb 23	29	5	26	80	
		" 25	29	5	33	86	
		Mar 3	29	5	69	85	
		" 9	29	5	216	85	
		" 9	29	5	148	86	
		" 9	29	5	161	88	
		" 13	29	5	304	87	
		" 18	29	5	133	84	
17	Pylades Channel	Feb 22	29	5	23	79	
		" 23	29	5	46	86	
		" 26	29	5	34	87	
17	Thetis Island	Mar 12	29	5	94	87	
17	Telegraph Harbour	" 14	29	5	229	87	
17	Cardale Point	Feb 27	29	5	84	90	
17	North Cove	Mar 11	29	5	154	91	
17	Breakwater Island	" 4	29	5	199	85	
17	Wallace Island	Feb 23	29	5	29	87	
17	Ragged Islets	Mar 12	29	5	220	80	
17	Nanoose Bay	Feb 26	29	5	58	94	
		Mar 1	29	5	226	87	
		" 1	29	5	59	90	
		" 1	29	5	297	86	
		" 1	29	5	43	67	
		" 2	29	0	377	64	
		" 2	29	0	108	93	
		" 2	29	0	146	73	
		" 2	29	0	103	95	
		" 2	29	0	116	95	
		" 2	29	0	100	90	
		" 2	29	0	109	86	
		" 2	29	0	391	89	

Table 19 (cont'd)

Area	Location	Date	Gear	Source	Sample number	Scales aged	Otolith aged
17	Nanoose Bay	Mar 2	29	0	378	88	
		" 2	29	5	149	81	
		" 2	29	5	57	89	
		" 2	29	5	233	89	
		" 3	29	5	296	93	
17	Nanoose Bay Head	" 2	29	0	389	84	
18	Satellite Channel	Feb 25	29	5	21	76	
		Mar 10	29	5	219	87	
		" 10	29	5	121	81	
		" 10	29	5	143	85	
18	Plumper Sound	Feb 24	29	5	22	79	
		Mar 16	29	5	134	81	
23	Shears Islands	Feb 27	29	5	280	93	
23	Pipestem Inlet	" 27	29	5	171	89	
		Mar 1	29	0	248	93	
23	Mayne Bay	" 1	29	0	279	17	
23	Stopper Islands	" 1	29	0	301	92	
		" 5	29	5	51*	85	94
		" 5	29	5	53	76	
23	Toquart Bay	" 1	29	0	252	84	
		" 1	29	0	271	91	
		" 5	29	5	73	93	
		" 6	29	5	166	91	
23	Forbes Island	Feb 24	29	5	240	73	
23	Coaster Channel	Mar 11	29	5	167	79	
23	David Island	" 1	29	0	251	92	
		" 1	29	0	278	91	
23	Maggie River	" 1	29	0	292	82	
23	Spilling Islet	" 1	29	5	225	91	
23	St. Ines Island	Feb 26	29	5	293	89	
23	Cabbage Patch +	Mar 15	1	5	127	93	
23	Chrow Islands	" 15	1	5	125	88	
23	Unknown Sec. 232	" 1	29	0	361	87	
		" 1	29	0	406	80	
24	Millar Channel	Feb 26	29	5	48	95	
		Mar 2	29	5	242	88	
24	Sydney Inlet	Feb 26	29	5	42	96	
		Mar 1	29	5	222	83	
		" 5	29	5	218	90	
24	Steamer Cove	Feb 27	29	5	49	89	
24	Hecate Bay	Mar 4	29	5	245	86	
		" 9	29	5	79	94	
24	Maurus Channel	" 4	29	5	145	90	
		" 7	29	5	77	93	
		" 7	29	5	238	95	
		" 12	29	5	105	94	

Table 19 (cont'd)

Area	Location	Date	Gear	Source	Sample number	Scales aged	Otolith aged
25	Zuciarte Channel	Feb 25	29	5	60	85	
25	Esperanza Inlet	" 25	29	5	44	90	
25	Nuchatlitz Inlet	Mar 3	19	0	119	88	
		" 3	19	0	144	64	
		" 3	19	0	106	97	
		" 3	19	0	173	73	
		" 3	19	0	158	90	
		" 3	19	0	136	87	
		" 4	19	0	395	52	
25	Rosa Harbour	Feb 27	29	5	47	97	
25	Double Island	" 25	29	5	27*	92	100
25	Hecate Channel	Mar 24	29	5	358	97	
25	Centre Island	Feb 26	29	5	54	80	
27	Klaskish Inlet	Mar 10	29	5	168	46	
27	Winter Harbour	Feb 28	19	0	128	80	
		Mar 13	29	5	174	55	
Total						37140	748


MAJOR AND MINOR
STATISTICAL AREAS
FOR THE
BRITISH COLUMBIA
TRAWL FISHERY
6
1W
1E
5D
QUEEN
CHARLOTTE
ISLANDS
2AW
2AE
2BW
2BE
5E
5C
5B
5A
BRITISH COLUMBIA
4B
VANCOUVER ISLAND
3D
3C
4A
3B
WASHINGTON

GOVERNMENT OF CANADA
FISHERIES AND OCEANS
STATISTICAL MAP
SHOWING AREAS OF CATCH FOR
BRITISH COLUMBIA WATERS
(NORTHERN HALF)
STATISTICAL AREAS ARE DIVIDED BY RED LINES
SALMON FISHING WITH NETS OF ANY KIND IS NOT PERMITTED OUTSIDE OF THAT IS SEAWARD OF THE HEAVY BLACK LINE
NOTE AREAS 5,6,7,8 AND 9 REVISED JAN 1974
DIXON ENTRANCE
PRINCE RUPERT
GRAHAM ISLAND
MASSET
SKIDEGATE
HECATE STRAIT
2 WEST
2 EAST
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
30
CAPE RUSSELL
CAMPBELL RIVER
NANAIMO
VANCOUVER
VICTORIA
STRAIT OF GEORGIA
STRAIT OF JUAN DE FUCA
CAPE FLATTERY
READ CAREFULLY
PIN UP IN WHEELHOUSE
WHEN DELIVERING YOUR CATCH GIVE TALLY MAN THE MAP NUMBER OR NUMBERS SHOWING THE AREA IN WHICH YOUR FISH WERE CAUGHT
ACCURATE CATCH REPORTS WILL HELP PRESERVE YOUR FISHERIES
INSERT MAP - FRASER RIVER
29-A
29-B
29-C
29-D
29-E
FOR ALL FISH CAUGHT OFF THE COAST OF THE STATE OF WASHINGTON SOUTH OF CAPE FLATTERY REPORT AS AREA "C"